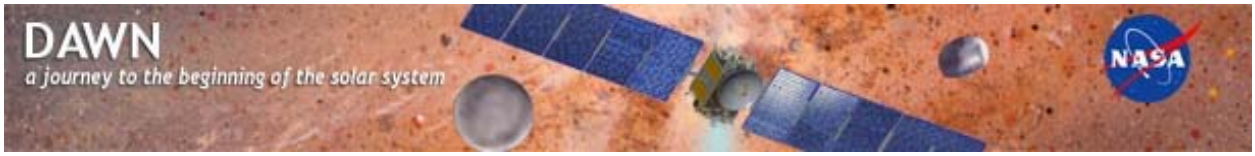

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Dawn Mission Outreach E-News, 2nd Edition **Fall 2004**

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A MESSAGE FROM THE PRINCIPAL INVESTIGATOR

Welcome to the Dawn e-newsletter. Those who received the first newsletter will recall that Dawn is scheduled for launch in June 2006 to orbit the two of the largest minor planets, Vesta and Ceres. You may also remember that at the time of the first newsletter we were preparing for Dawn's Critical Design Review. I am very pleased to announce we passed this review and we are moving forward with the project, building the spacecraft and developing the mission with our sights set on launch.

Orbiting two different planetary bodies with a single spacecraft has never previously been achieved. Dawn can accomplish this feat by very efficient use of its fuel. Dawn's engine accelerates the gas in its thrusters to ten times the velocity of typical spacecraft rocket exhaust. It does this by ionizing the gas (xenon) and accelerating the xenon with a strong electric field. Dawn is paving the way for future missions to the planets that will fly even more powerful ion engines with ten times the thrust (on the JIMO mission to Jupiter's Icy Moons) to one hundred times Dawn's thrust when nuclear reactors are ready to be flown in space. We invite you to join us on this adventure by visiting our website http://dawn.jpl.nasa.gov.

Chris Russell
Dawn Principal Investigator

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MEET DAWN'S PRINCIPAL INVESTIGATOR

From Apollo to Dawn, Chris Russell shares his vast experience in planetary science and explains how his research transitioned from the moon to asteroids. Discover more about Dawn's principal investigator by reading a recent interview available at: http://dawn.jpl.nasa.gov/people/russell/russell_inter.asp

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RECENT OBSERVATIONS OF CERES AND VESTA

How did the Hubble Space Telescope help Dawn scientists? What intriguing information came from recent observations at NASA's Infrared Telescope Facility (IRTF) in Hawaii? Keep up-to-date with the Dawn Science Team's mission activities presented by Dr. Lucy McFadden, Dawn mission Co-Investigator and Director of Education and Public Outreach. Visit the "Feedback" section of the Dawn Web site at: http://dawn.jpl.nasa.gov/contact/feedback.asp

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ASK A SCIENTIST

'Have a question and want to communicate directly with a member of the Dawn mission team? Click on the "Ask a Scientist" link located at the bottom of the Dawn Web site at: http://dawn.jpl.nasa.gov

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ION PROPULSION SIMULATION

Dawn is the first science mission to use an ion propulsion system. How do ion engines work? Learners of all ages can engage in a series of online interactive activities to discover the properties of electric charge and the principles of an ion engine. Learners can then apply new knowledge to design their own ion engine. To experiment with this ion engine simulation developed by the Jet Propulsion Laboratory, visit: http://dawn.jpl.nasa.gov/mission/ion_engine_interactive/index.html

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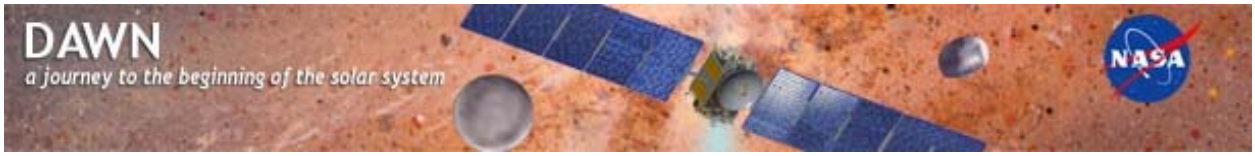

ATTENTION: CURRICULUM COORDINATORS, FORMAL AND INFORMAL SCIENCE EDUCATORS
Are you interested in participating in a Dawn pilot study? Dawn Education and Public Outreach (E/PO) is committed to offering materials that are of high quality and utility and reflect the needs of formal and informal science educators. During the fall of 2004, Dawn E/PO is conducting a pilot study of the *Find a Meteorite* activity developed by the University of New Mexico and McREL. For more details and to sign up visit: http://dawn.jpl.nasa.gov/DawnClassrooms/index.asp

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UPCOMING EDUCATION AND PUBLIC OUTREACH EVENT
On October 16th, Dawn's E/PO team will present its Telescopes in Education and Spaceguard Detective Agency activities for review at the California Science Teachers Association meeting in San Jose, CA. The one-hour workshop, *Asteroid Discovery and Exploration: The NASA Dawn Mission*, will be held in the Marriott Hotel's Ballroom Salon #2 at 8:00 AM.

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SUBSCRIPTION INFORMATION
The Dawn mission e-newsletter will be delivered on a quarterly basis. As we approach our 12-month countdown to launch, you will receive monthly mission updates via e-news. Please forward this e-mail to share with others interested in NASA missions. New subscribers may join the Dawn mission e-news mailing list on our Web site at: http://dawn.jpl.nasa.gov/DawnMedia/e_news.asp

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Dawn Mission Outreach E-News features information about the mission, its outreach Web site, and products, services, and materials available from the Dawn Education and Public Outreach (E/PO) team.

Dawn is the ninth Discovery mission scheduled for funding from NASA's Space Science Division and is a collaborative partnership made up of the University of California, Los Angeles; Jet Propulsion Laboratory; Orbital Sciences Corporation; Los Alamos National Laboratory; German Space Center; Max Planck Institute for Aeronomy; and Italian Space Agency. Dawn education materials are developed under contract by Mid-continent Research for Education and Learning (McREL), Aurora, CO.